OIPE JC67 FEB 13 2004 PATENT & TRADEMARK OFFICE

FIG. 1

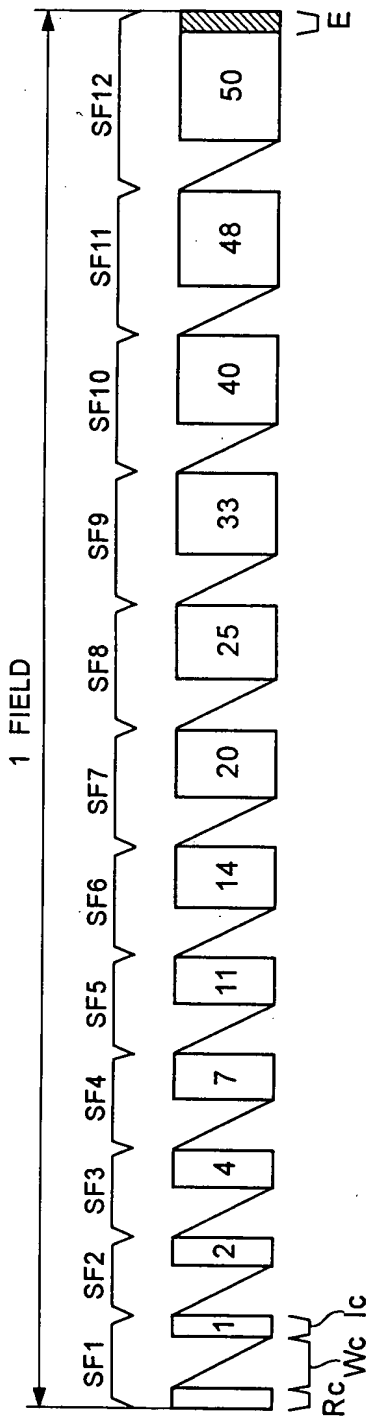


FIG. 2

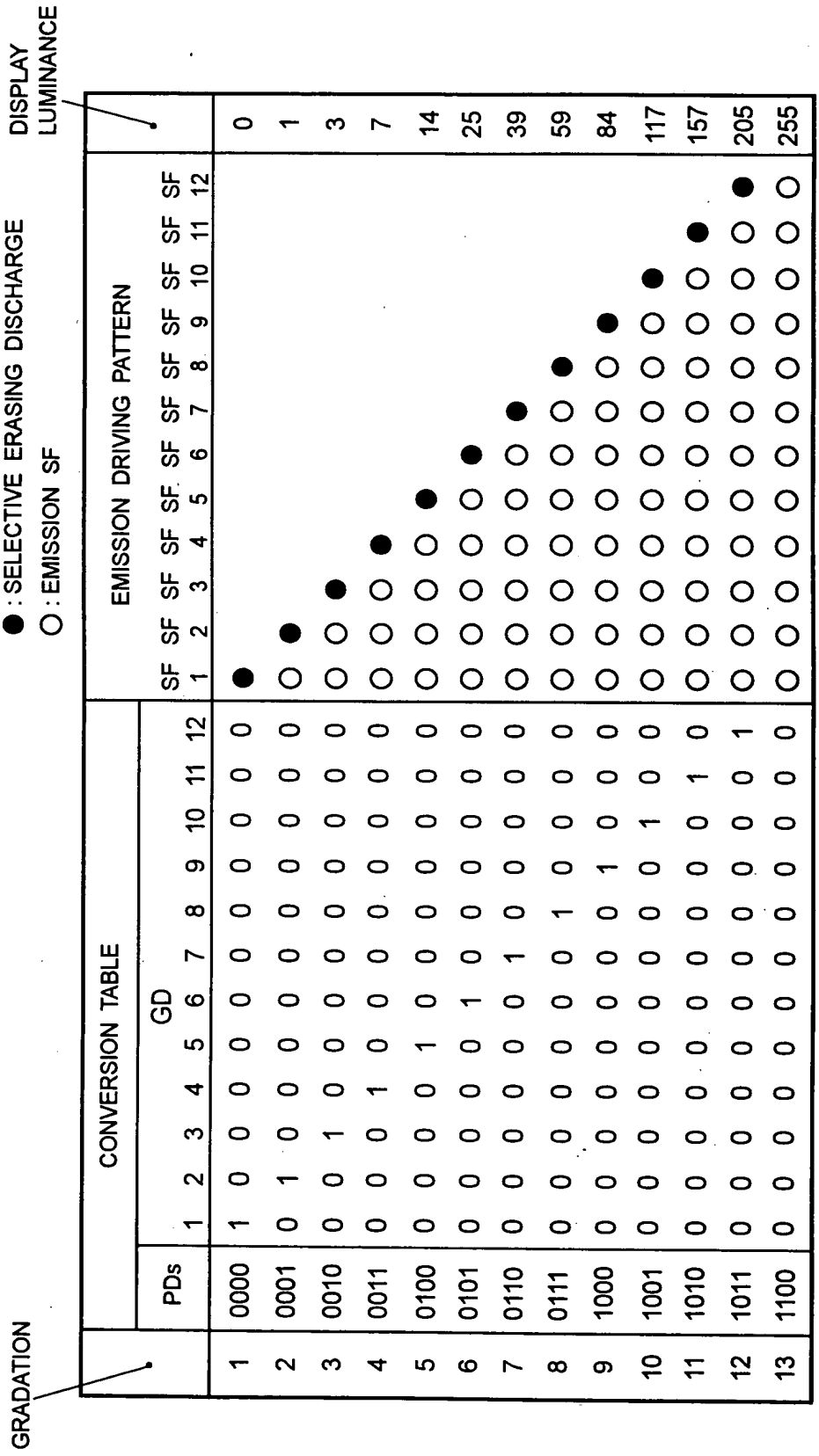

●: SELECTIVE ERASING DISCHARGE
○: EMISSION SF
GRADATION
CONVERSION TABLE
PDs
GD
1 2 3 4 5 6 7 8 9 10 11 12
EMISSION DRIVING PATTERN
SF 1 SF 2 SF 3 SF 4 SF 5 SF 6 SF 7 SF 8 SF 9 SF 10 SF 11 SF 12
DISPLAY LUMINANCE
1 0000 1 0 0 0 0 0 0 0 0 0 0 0 0
2 0001 0 1 0 0 0 0 0 0 0 0 0 0 0
3 0010 0 0 1 0 0 0 0 0 0 0 0 0 0
4 0011 0 0 0 1 0 0 0 0 0 0 0 0 0
5 0100 0 0 0 0 1 0 0 0 0 0 0 0 0
6 0101 0 0 0 0 0 1 0 0 0 0 0 0 0
7 0110 0 0 0 0 0 0 1 0 0 0 0 0 0
8 0111 0 0 0 0 0 0 0 1 0 0 0 0 0
9 1000 0 0 0 0 0 0 0 0 1 0 0 0 0
10 1001 0 0 0 0 0 0 0 0 0 1 0 0 0
11 1010 0 0 0 0 0 0 0 0 0 0 1 0 0
12 1011 0 0 0 0 0 0 0 0 0 0 0 1 0
13 1100 0 0 0 0 0 0 0 0 0 0 0 0 0
0
1
3
7
14
25
39
59
84
117
157
205
255

FIG. 3

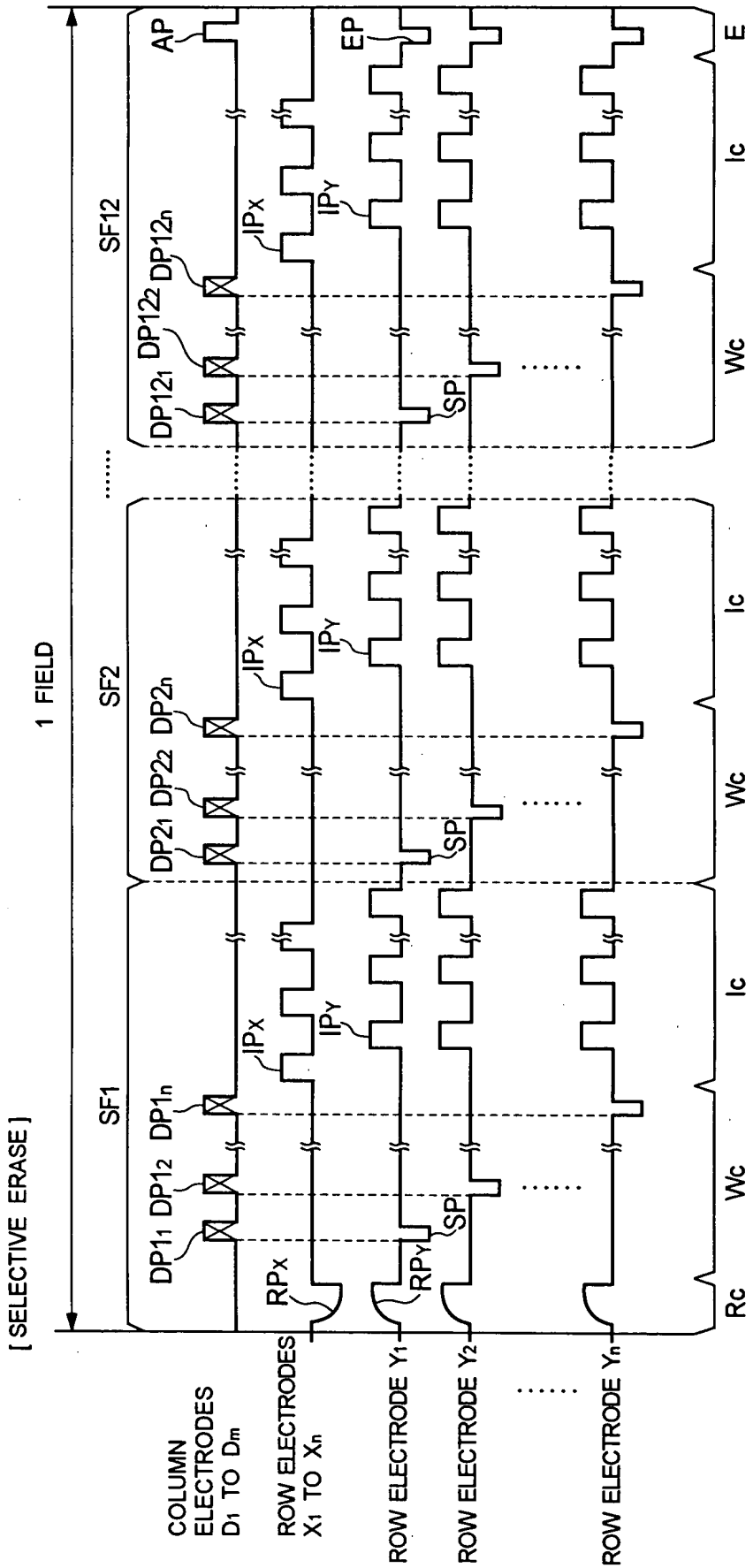

[SELECTIVE ERASE]
1 FIELD
SF1
SF2
SF12
AP
EP
E
Ic
Wc
Rc
IPx
IPy
RPx
RPy
SP
DP11 DP12 DP1n
DP21 DP22 DP2n
DP121 DP122 DP12n
COLUMN ELECTRODES D1 TO Dm
ROW ELECTRODES X1 TO Xn
ROW ELECTRODE Y1
ROW ELECTRODE Y2
ROW ELECTRODE Yn

FIG. 4

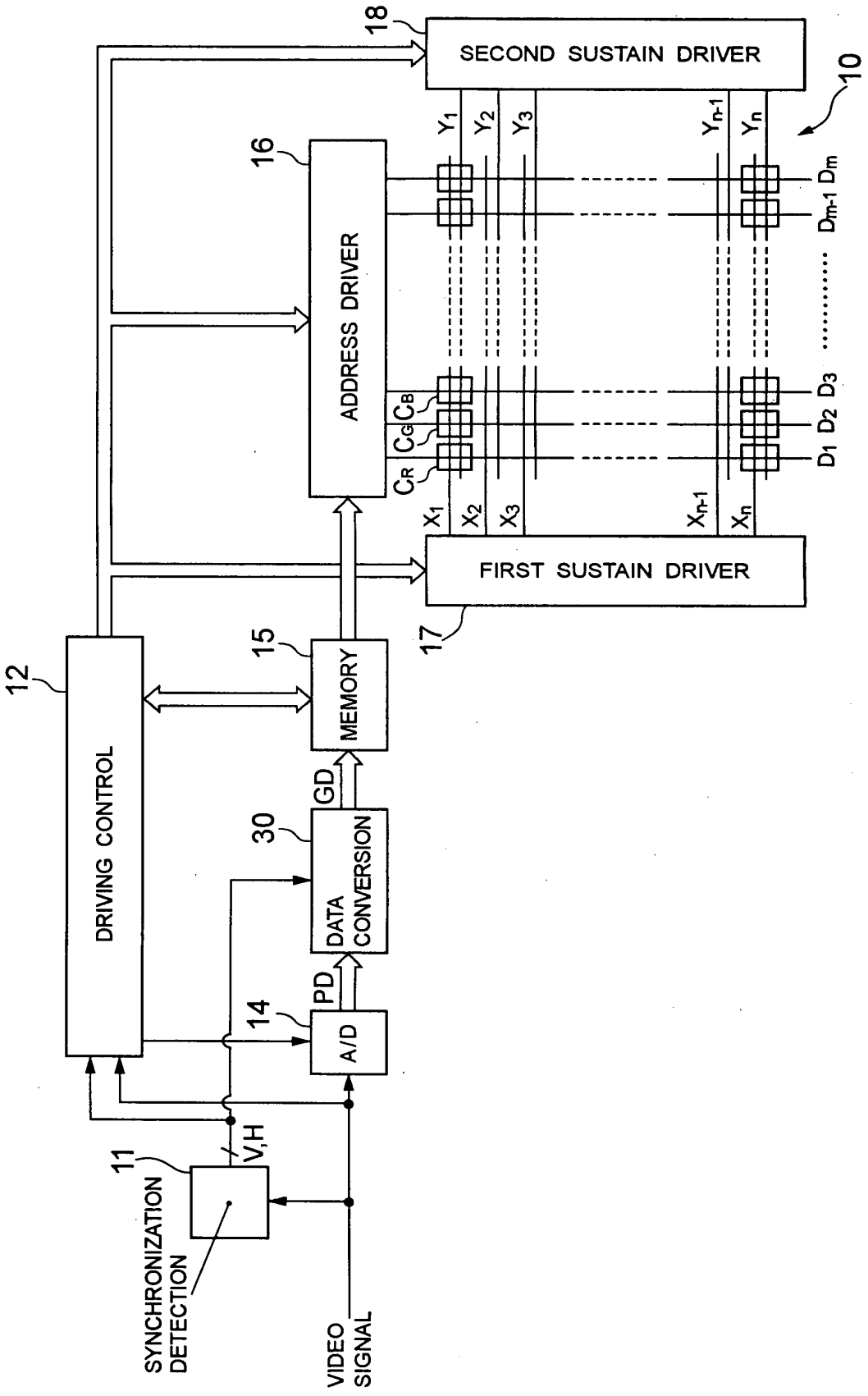

18
SECOND SUSTAIN DRIVER
10
16
ADDRESS DRIVER
Y1 Y2 Y3 Yn-1 Yn
Dm-1 Dm
D3
D1 D2
CB CG CR
X1 X2 X3 Xn-1 Xn
FIRST SUSTAIN DRIVER
17
15
MEMORY
12
DRIVING CONTROL
GD
30
DATA CONVERSION
PD
14
A/D
V,H
11
SYNCHRONIZATION DETECTION
VIDEO SIGNAL

FIG. 5

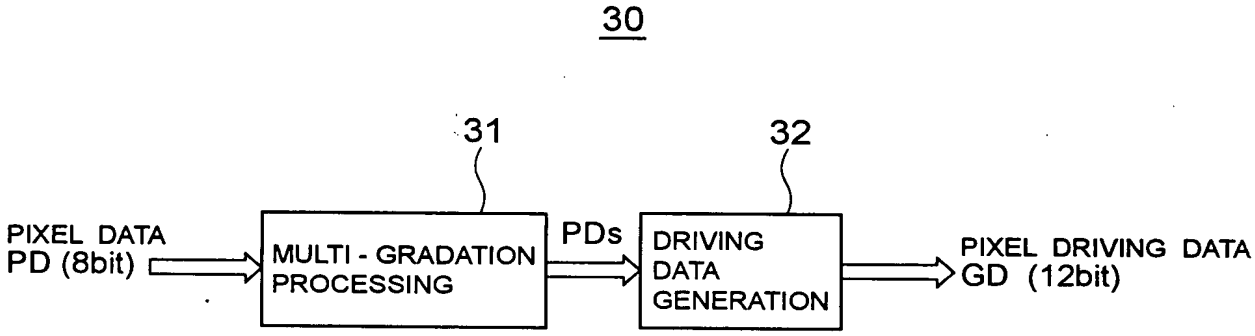

30
31
32
PIXEL DATA
PD (8bit)
MULTI - GRADATION PROCESSING
PDs
DRIVING DATA GENERATION
PIXEL DRIVING DATA
GD (12bit)

FIG.6

GRADATION DRIVING	CONVERSION TABLE		EMISSION PATTERN												LUMINANCE
	PDs	GD 1 2 3 4 12	SF 1	SF 2	SF 3	SF 4	SF 5	SF 6	SF 7	SF 8	SF 9	SF 10	SF 11	SF 12	
1	0000	0 * * * * * * * * * * *													0
2	0001	1 1 * * * * * * * * * *	◎	●											1
3	0010	1 0 1 * * * * * * * * *	◎	○	●										3
4	0011	1 0 0 1 * * * * * * * *	◎	○	○	●									7
5	0100	1 0 0 0 1 * * * * * * *	◎	○	○	○	●								13
6	0101	1 0 0 0 0 1 * * * * * *	◎	○	○	○	○	●							25
7	0110	1 0 0 0 0 0 1 * * * * *	◎	○	○	○	○	○	●						39
8	0111	1 0 0 0 0 0 0 1 * * * *	◎	○	○	○	○	○	○	●					59
9	1000	1 0 0 0 0 0 0 0 1 * * *	◎	○	○	○	○	○	○	○	●				84
10	1001	1 0 0 0 0 0 0 0 0 1 * *	◎	○	○	○	○	○	○	○	○	●			117
11	1010	1 0 0 0 0 0 0 0 0 0 1 *	◎	○	○	○	○	○	○	○	○	○	●		157
12	1011	1 0 0 0 0 0 0 0 0 0 0 1	◎	○	○	○	○	○	○	○	○	○	○	●	205
13	1100	1 0 0 0 0 0 0 0 0 0 0 0	◎	○	○	○	○	○	○	○	○	○	○	○	255

*: 0 OR 1

◎ : SELECTIVE WRITING

● : SELECTIVE ERASURE

○ : SUSTAIN DISCHARGE EMISSION SF

FIG.7

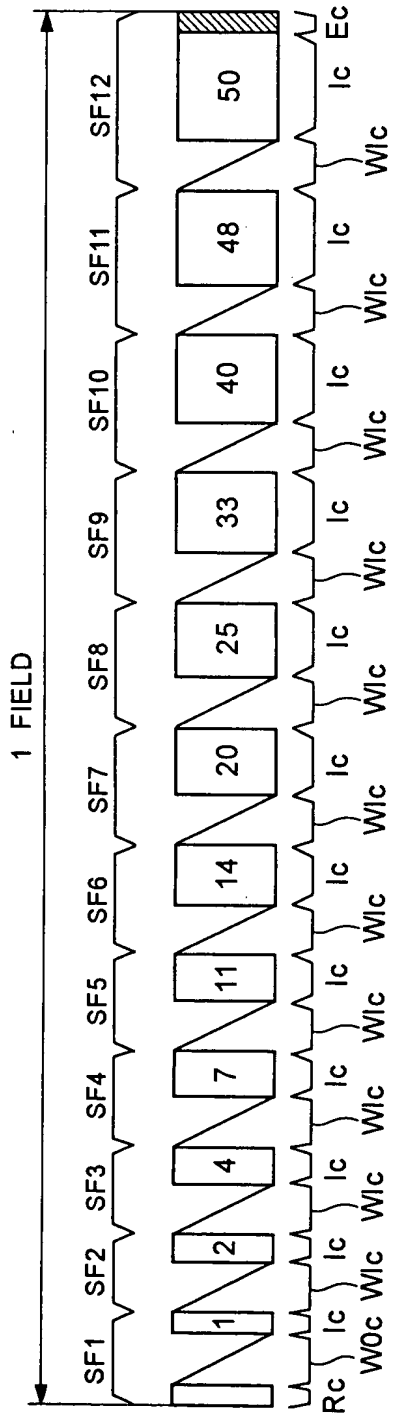

1 FIELD
SF1
SF2
SF3
SF4
SF5
SF6
SF7
SF8
SF9
SF10
SF11
SF12
1
2
4
7
11
14
20
25
33
40
48
50
Rc
WOc
Ic
WIc
Ec

FIG. 8

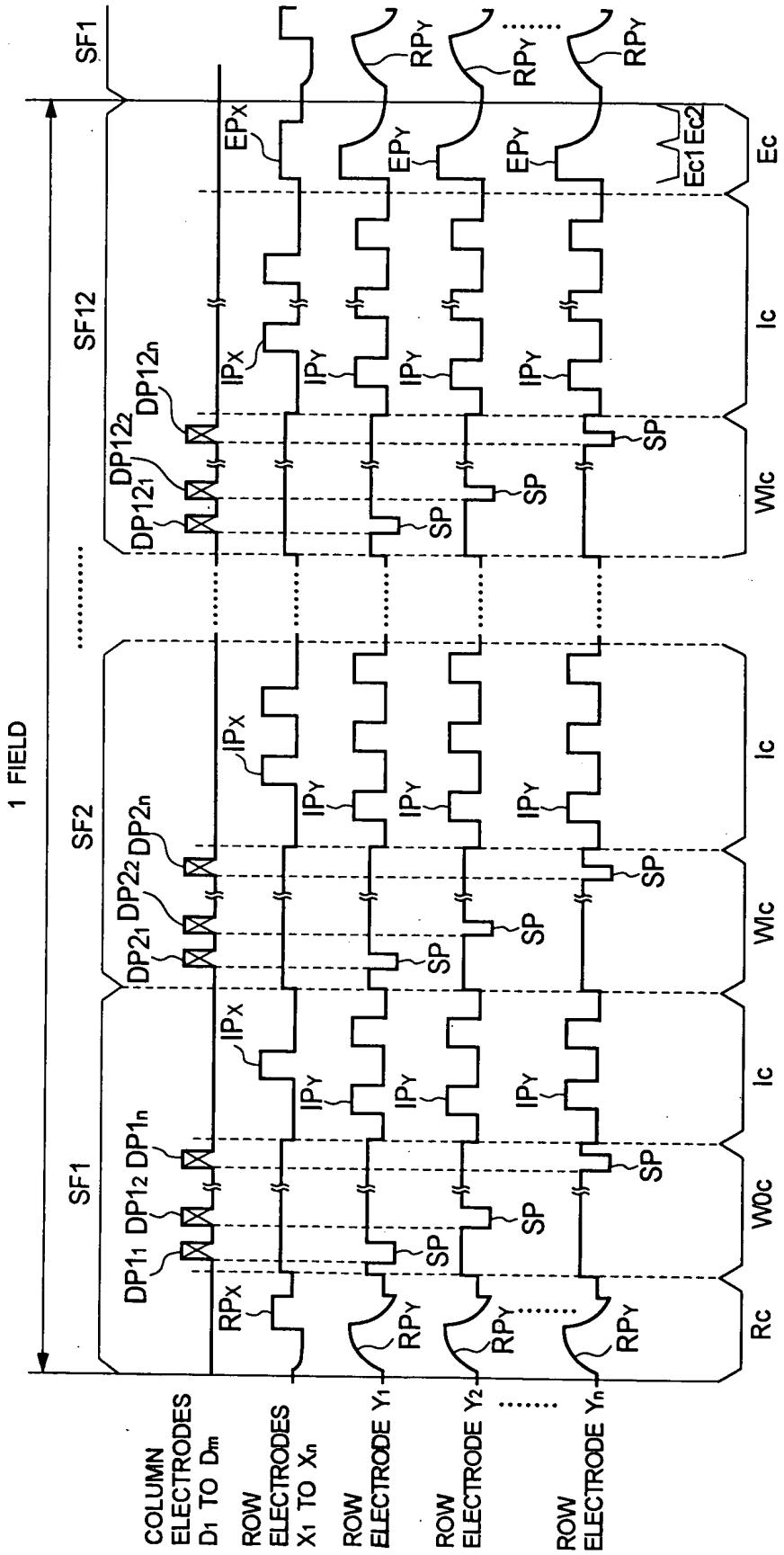

1 FIELD
SF1
SF2
SF12
SF1
EPX
EPY
RPY
RPX
Ec1Ec2
Ec
IPX
IPY
DP12n
DP122
DP121
DP2n
DP22
DP21
DP1n
DP12
DP11
SP
Ic
Wic
Woc
Rc
COLUMN ELECTRODES D1 TO Dm
ROW ELECTRODES X1 TO Xn
ROW ELECTRODE Y1
ROW ELECTRODE Y2
ROW ELECTRODE Yn

FIG. 9A

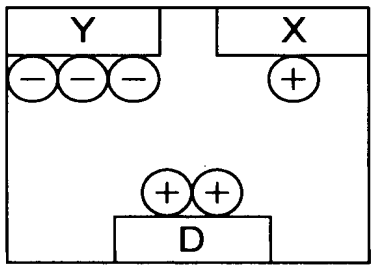
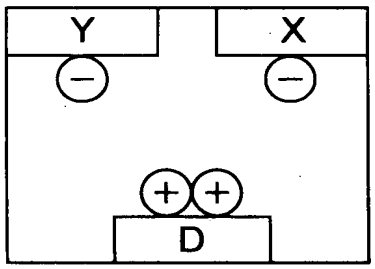


FIG. 9B



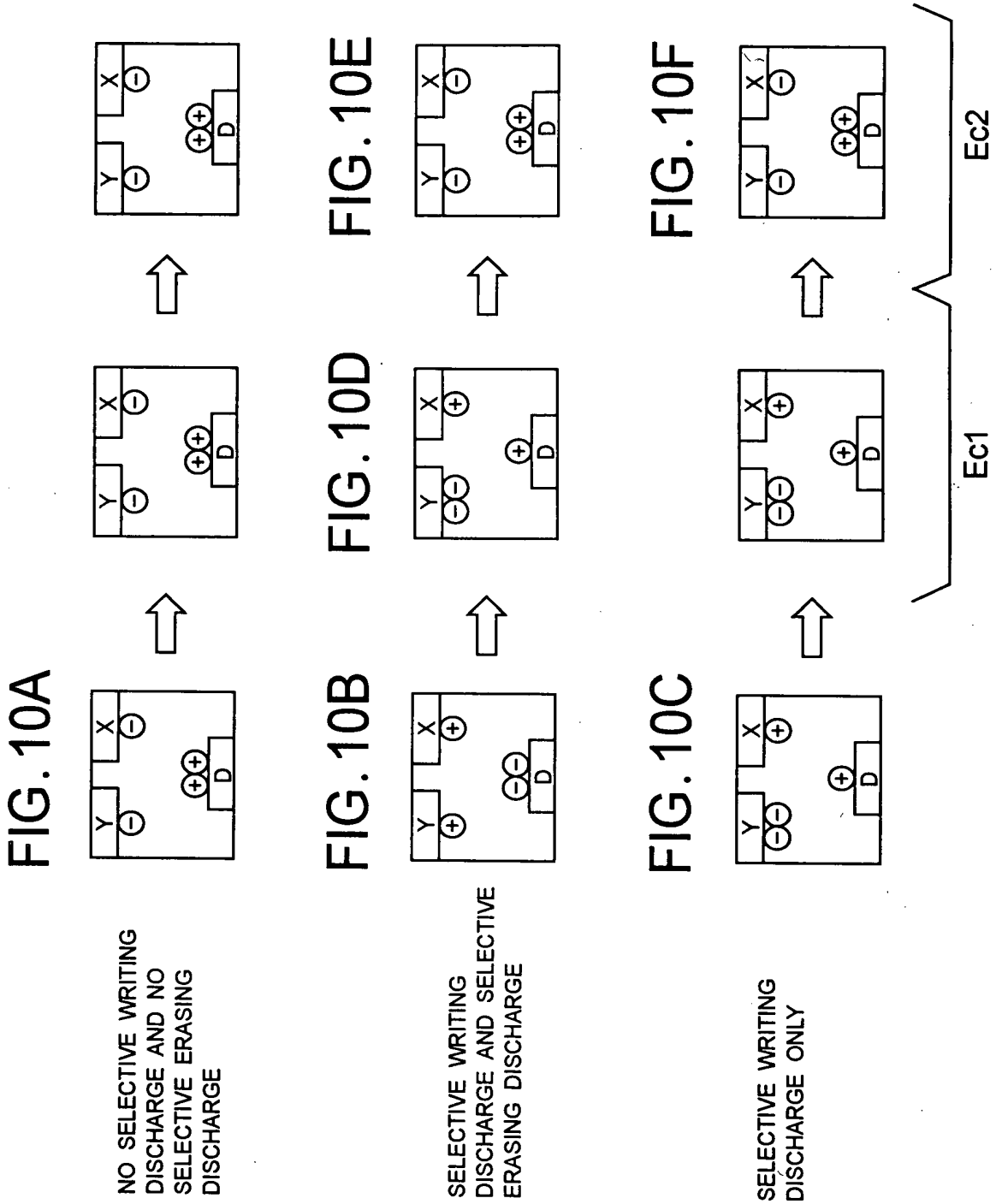


FIG. 10A
NO SELECTIVE WRITING DISCHARGE AND NO SELECTIVE ERASING DISCHARGE
FIG. 10B
SELECTIVE WRITING DISCHARGE AND SELECTIVE ERASING DISCHARGE
FIG. 10C
SELECTIVE WRITING DISCHARGE ONLY
FIG. 10D
FIG. 10E
FIG. 10F
Ec1
Ec2
X
Y
D

FIG.11

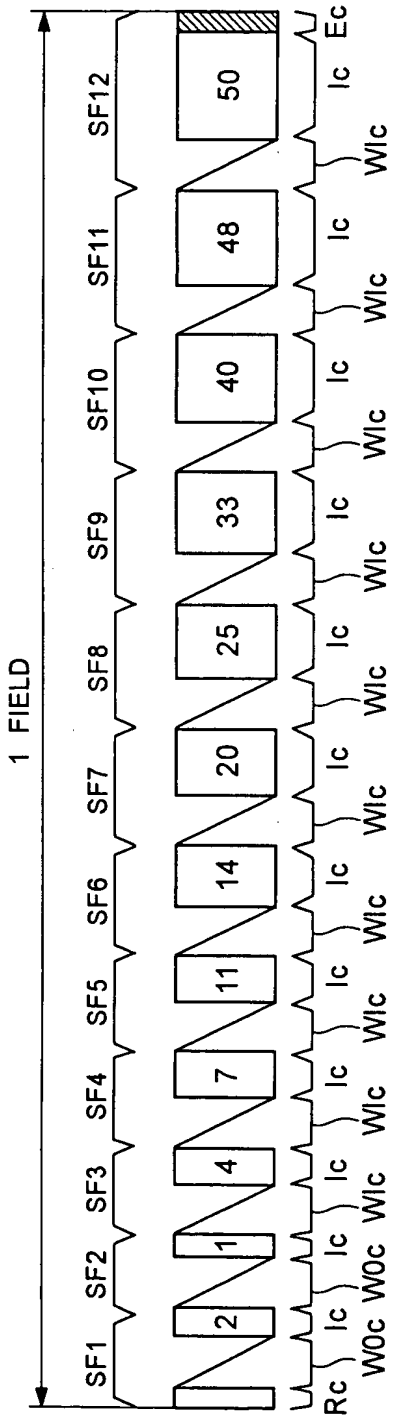

1 FIELD
SF1
SF2
SF3
SF4
SF5
SF6
SF7
SF8
SF9
SF10
SF11
SF12
Rc
WOc
Ic
WOc
Ic
WIc
Ic
WIc
Ic
WIc
Ic
WIc
Ic
WIc
Ic
WIc
Ic
WIc
Ic
WIc
Ic
WIc
Ic
Ec
2
1
4
7
11
14
20
25
33
40
48
50

FIG. 12

GRADATION DRIVING	CONVERSION TABLE		EMISSION PATTERN												LUMINANCE
	PDs	GD 1 2 3 4 · · · · · · · · 12	SF 1	SF 2	SF 3	SF 4	SF 5	SF 6	SF 7	SF 8	SF 9	SF 10	SF 11	SF 12	
1	0000	0 * * * * * * * * * * *													0
2	0001	0 1 1 * * * * * * * * *		◎	●										1
3	0010	1 1 1 * * * * * * * * *	◎	◎	●										3
4	0011	1 1 0 1 * * * * * * * *	◎	◎	○	●									7
5	0100	1 1 0 0 1 * * * * * * *	◎	◎	○	○	●								13
6	0101	1 1 0 0 0 1 * * * * * *	◎	◎	○	○	○	●							25
7	0110	1 1 0 0 0 0 1 * * * * *	◎	◎	○	○	○	○	●						39
8	0111	1 1 0 0 0 0 0 1 * * * *	◎	◎	○	○	○	○	○	●					59
9	1000	1 1 0 0 0 0 0 0 1 * * *	◎	◎	○	○	○	○	○	○	●				84
10	1001	1 1 0 0 0 0 0 0 0 1 * *	◎	◎	○	○	○	○	○	○	○	●			117
11	1010	1 1 0 0 0 0 0 0 0 0 1 *	◎	◎	○	○	○	○	○	○	○	○	●		157
12	1011	1 1 0 0 0 0 0 0 0 0 0 1	◎	◎	○	○	○	○	○	○	○	○	○	●	205
13	1100	1 1 0 0 0 0 0 0 0 0 0 0	◎	◎	○	○	○	○	○	○	○	○	○	○	255

*: 0 OR 1

◎ : SELECTIVE WRITING

● : SELECTIVE ERASURE

○ : SUSTAIN DISCHARGE EMISSION SF

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METHOD FOR DRIVING DISPLAY PANEL
Date Filed: September 11, 2003
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Q77329